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TO : The Files

DATE: 23 April 1957

FROM : [REDACTED]

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SUBJECT: Marine Crystal Video - Contract RD-91

1. On 3 April 1957, I visited the Chesapeake Bay Annex site of the Naval Research Laboratories to observe further testing of the reworked Marine Video System. [REDACTED]

[REDACTED] were present during these tests.

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2. The installation has been made aboard the picket boat. In addition to the Marine Video System, an Ampex 814 Tape Recorder of seven channels, and an SLA-1A pulse analyzer are connected for operation. Preliminary testing of the system indicates that present performance far exceeds that originally experienced. There is no evidence of interreaction between the pre-amps in the antenna radome, and further, there is no evidence of audio inter-reaction between plug-in units within the console.

3. Certain minor difficulties were encountered in getting this system in operation. A miniature toggle switch failed, and was replaced, in one of the plug-in units. This switch is used instead of the potentiometer originally utilized for changing threshold characteristics of the individual channel crystal. Discussions with [REDACTED] indicates they are not satisfied with this particular switch, and other, more reliable types are being furnished to replace these units. An erratic trace was noted on the CRT of one of the plug-in units. This was caused by a faulty clamping diode in the CRT coupling board. Replacement of this diode corrected the problem. One of the CRT tubes failed to operate. While everything up through the deflection boards tested satisfactory, a loose wire was found on one of the CRT beam positioning controls. This wire was soldered, and the trouble appeared to be corrected, although it is believed other faulty conditions exist which, at this time, have not been detected. It was noticed, however, that the high voltage (600V nominal) supply measured only approximately 420 volts. Mr. [REDACTED] had not redesigned this circuit as it appeared to be operating in a satisfactory manner. It is thought this circuit may have to be redesigned.

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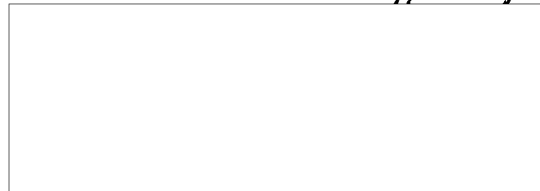
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4. Following correction of these minor troubles, the system was energized for operation. A strong intercept was noted on Band 6. This is in the range of 5 to 10 kmc. A check of the area revealed that the closest source of known radars operating in this particular range is at Patuxent River, which is approximately 20 miles from this site. We requested that one radar in the "L" Band be energized at the CBA site. The relatively close proximity of this radar (approximately 2-1/2 miles) caused a saturation trace on the CRT (Band 5), however, no interreaction of any kind was noted in other channels.

5. Small craft warnings had been displayed early in the day, therefore, operation out in the bay was not possible. However, these preliminary tests have indicated that functioning of the system is far superior to that earlier achieved, and that actual operation should be satisfactory.



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